

Patent Claims

1. Nucleic acid coding for a delta-12-desaturase enzyme,
characterized by the fact that
- 5 it originates from the coldness-adapted marine diatom *fragilariopsis cylindrus*
and that it is structured according to SEQ ID No. 1 or as a functional variant
or as a segment with at least 8 nucleotides thereof.
- 10 2. The nucleic acid sequence of claim 1,
characterized by the fact that
the nucleic acid sequence is structured as DNA or RNA, preferably as a
double-strand DNA.
- 15 3. The nucleic acid sequence of claim 1 or 2,
characterized by the fact that
the nucleic acid is contained in a vector, preferably in an expression vector.
- 20 4. The use of the nucleic acid sequence of claim 3 for expression or
overexpression of the delta-12-desaturase enzyme in host organisms.
5. Polypeptide associated with the nucleic acid sequence of claim 1 or 2
which is structured with an amino acid sequence according to SEQ ID No. 1
or as a functional variant or as a section with at least 6 amino acids thereof.
- 25 6. The use of the polypeptide of claim 5 lapped to a protein for enriching
fatty acids dependent upon the delta-12-desaturase in host organisms.
7. The use of polypeptides of claim 6 as additive to human food or in
medicines.

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